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February 14, 2008

CCN 306357

Michael A. Bussell, Director
Office of Compliance and Enforcement
EPA Region 10
1200 6th Ave., Suite 900
MS OCE-164
Seattle, WA 98101

SUBJECT: Toxic Substances Control Act (TSCA) Risk-Based Disposal Approval Application for Storage and Processing for Disposal of Test Area North Buried Piping at the Idaho National Laboratory Site

Dear Mr. Bussell:

This letter provides a risk-based disposal approval (RBDA) application under 40 CFR 761.61(c) for storage and processing for disposal of bulk PCB remediation waste. The waste covered by this application consists of PCB-contaminated residual solids contained within approximately 600 linear feet of direct buried stainless steel drain lines associated with the Hot Shop and Hot Cell located at Test Area North (TAN) (building TAN-607), Idaho National Laboratory (INL). These drain lines, which are located underneath the TAN-607 Hot Shop and Hot Cell, will be removed and managed as PCB remediation waste in conjunction with demolition activities associated with the TAN-607 facility. The removal of these RCRA regulated and radioactively contaminated drain lines is a milestone under a Voluntary Consent Order, which is an agreement between the Department of Energy, Idaho Operations Office (DOE-ID), and the State of Idaho Department of Environmental Quality (DEQ). This application only covers storage and processing for disposal of this waste; a notification under 40 CFR 761.61(a)(5)(i)(B)(2)(iv) is being submitted separately for disposal in a RCRA permitted hazardous waste landfill.

This RBDA application requests authorization to store the grouted drain lines for no longer than 240 days as described below. This RBDA application also requests authorization to process for disposal (macroencapsulate) this waste to meet land disposal requirements in accordance with IDAPA 58.01.05.011 [40 CFR 268.45] and to satisfy the waste acceptance criteria for land disposal in the RCRA-permitted hazardous waste landfill at the Nevada Test Site (NTS). Upon EPA approval, this RBDA will ensure compliant storage and processing for disposal that do not pose an unreasonable risk of injury to human health or the environment.

Background

TAN-607 was a large "nuclear facility" with over 150,000 square feet of floor space. The northern portion of TAN-607 consists of the Hot Shop and Hot Cell that were specifically designed to conduct research and design in very high radiation fields that resulted in extreme radioactive contamination. The Hot Shop was the largest shielded remote handling facility in the United States. Demolition activities have removed the facility with the exception of the facility floor slab and the underlying grouted drain lines associated with the TAN-607 Hot Shop and Hot Cell. The direct buried drain lines were filled with grout prior to TAN-607 building demolition in order to minimize radioactive airborne contamination, maintain radiological exposure as low as reasonably achievable, and to reduce the risk of nonradiological hazards to the workers during the line removal and sizing operations.

The drain lines addressed by this application will be generated through demolition activities associated with the TAN-607 Hot Shop and Hot Cell resulting in the waste covered under this RBDA. The drain lines are free of liquids since these gravity draining lines were accessed at the lowest elevation, drained of all liquids, and grouted. Analytical results from sampling of the liquid showed extremely low detection of PCBs (<1 ppb) while results from sampling of residual solids present within these drain lines prior to grouting indicated PCB concentrations ranging between 112 ppm to 558 ppm. The residual solids were also sampled and found to be RCRA characteristically hazardous for D008 (lead) and D009 (mercury). This RCRA regulated waste will require macroencapsulation treatment prior to off-site disposal at the NTS, which is a RCRA permitted treatment storage and disposal facility (TSDF). This is the only disposal option for this waste in the nation.

Planned Storage, Processing and Disposal Activities

The ultimate goal is to remove these grouted, direct buried drain lines currently located under the TAN-607 building slab and place them into RCRA permitted disposal at the NTS. In order to achieve this goal, many factors need to be taken into account. First is that these drain lines contain radioisotope concentrations limiting the disposal option to one TSDF, the NTS. The resulting waste form (i.e., marcroencapsulated waste in containers) must meet the waste acceptance criteria at the NTS for the applicable radioisotope concentrations, as well as the hazardous waste acceptance criteria (including treatment to satisfy applicable land disposal restriction treatment standards) established in the NTS permit. In addition, the Department of Transportation (DOT) regulations specify the type of shipping container, maximum weight limits, and acceptable radiation levels for each of the waste containers. Failure to satisfy any of these requirements would result in indefinite storage of this waste stream until a future disposal option may become available.

The TAN-607 building demolition is complete. Demolition activities will begin on the building slab to expose, size, and remove the grouted drain lines underneath. All demolition work will be conducted remotely to minimize worker exposure to radiation. When the grouted drain lines containing the residual waste solids have been excavated, they will be stored and treated within a Temporary Accumulation Area (TAA), per container storage requirements of IDAPA 58.01.05.006 [40 CFR 262.34(a)] with the exception of the 90-day clock as approved by the DEQ.

A trackhoe equipped with a processor head will be used to size reduce the drain lines. Prior to cutting the excavated lines, the soil under the line segment will be exhumed to allow for the placement of a tray under the line. The tray will catch any loose grout that may be generated during the cutting process. If the cutting process results in the generation of dust, radiological control professionals may require the use of a HEPA filtered air mover to control the spread of radioactive contamination. Experience from sizing of non-TSCA regulated piping to date has shown no dust generation or spread of radiological contamination; therefore, the use of a HEPA filtered air mover is not anticipated. Workers involved in excavating and sizing of the drain lines will be under the supervision of radiological control and industrial hygiene professionals, and appropriate personal protective equipment will be utilized, as necessary. The area of the sizing activity will be monitored for radioactivity. Any secondary waste streams, which may include HEPA filter, loose grout, trays, will be characterized and managed appropriately. Management of secondary waste may include placement into the prepared containers for processing for disposal, if necessary.

Three painted steel containers have been prepared for use with the macroencapsulation treatment standard as set forth in IDAPA 58.01.05.011 [40 CFR 268.45]. These top loading intermodal containers with dimensions of approximately 19' long by 8' wide and 6' tall have been prepared by forming a grouted concrete cavity in the center of each container (see Attachment A). The concrete cavity was constructed by pouring a minimum 3-6" layer of grout around the sides and bottom of a wooden form centered in the intermodal container. Two to five additional painted steel containers of smaller dimensions will be prepared in the same manner as the intermodal containers for placement of drain lines, if necessary.

Drain lines will be placed directly into the prepared containers unless specific line segments exceed anticipated radiological limits. The ends of these line segments that are not directly placed into the prepared containers will be capped with a sock constructed out of Herculite® (heavy duty vinyl laminated polyester fabric) and then secured with a pipe clamp and tape (see Attachment B). These segments will be appropriately labeled (M_L and out of service date) and managed outside of the prepared container but within the TAA. These capped pipe segments will be stored until an acceptable disposal container can be designated, procured, and prepared to satisfy Department of Transportation (DOT) requirements and NTS waste acceptance criteria. Weekly inspections of the capped line segments and the prepared containers will be conducted as required per IDAPA 58.01.05.006 [40 CFR 262.34] to verify integrity.

The NTS waste acceptance criteria requires that the void space around the drain lines be filled with a "nonbiodegradable sorbent" (e.g., vermiculite). The wooden form will be fitted with a lid and a second grout pour will be made over the lid and around the form, ensuring the inner wooden form is totally encapsulated with a minimum of 3-6" of grout. Any remaining container void space will be filled with vermiculite and the containers will be readied for NTS shipping approval. The treated waste containers will be shipped to the NTS (EPA ID No. NV3890090001), located near Mercury, Nevada, for final disposal in their RCRA-permitted hazardous waste landfill. NTS waste acceptance specialists have been

directly involved with ensuring the final waste configuration will satisfy NTS waste acceptance criteria for hazardous and radiological waste.

At the completion of the drain line removal, the underlying soil will be surveyed to ensure that the radioactive contamination left in the soil does not exceed the field remediation goals established for the CERCLA Non-Time-Critical Removal Action for demolition of TAN-607 identified in the associated Action Memorandum. These remedial action objectives are defined in the CERCLA Record of Decision Amendment for Operable Unit 1-10 (2004). Cleanup and management of soils, if necessary, will be performed as part of the CERCLA Non-Time-Critical Removal Action for demolition of TAN-607.

The maximum length of time that the drain lines will be stored on site (including processing for disposal) following excavation will be 240 days. If unforeseen circumstances cause delays and the need for additional storage time is required, EPA will be notified in writing prior to exceeding the 240 days.

The storage and processing for disposal methodologies described in this application for non-liquid PCB remediation waste will ensure there is no unreasonable risk of injury to human health or the environment.

If you have questions, please contact Shawn Rosenberger at (208) 526-4989 or Dave Wessman from DOE-ID at (208) 526-0082.

Sincerely,

DP Hunter for

Kliss McNeel, Director
Environmental and Regulatory Services

MSR:caf

Attachments

cc: D. Bartus, EPA Region 10, Seattle
R. C. Iotti, CWI, MS 5104
N. R. Jensen, DOE-ID, MS 1222
R. E. Nagel, CWI, MS 2503
R. B. Provencher, DOE-ID, MS 1222
D. L. Wessman, DOE-ID, MS 1216 DW

Attachment A
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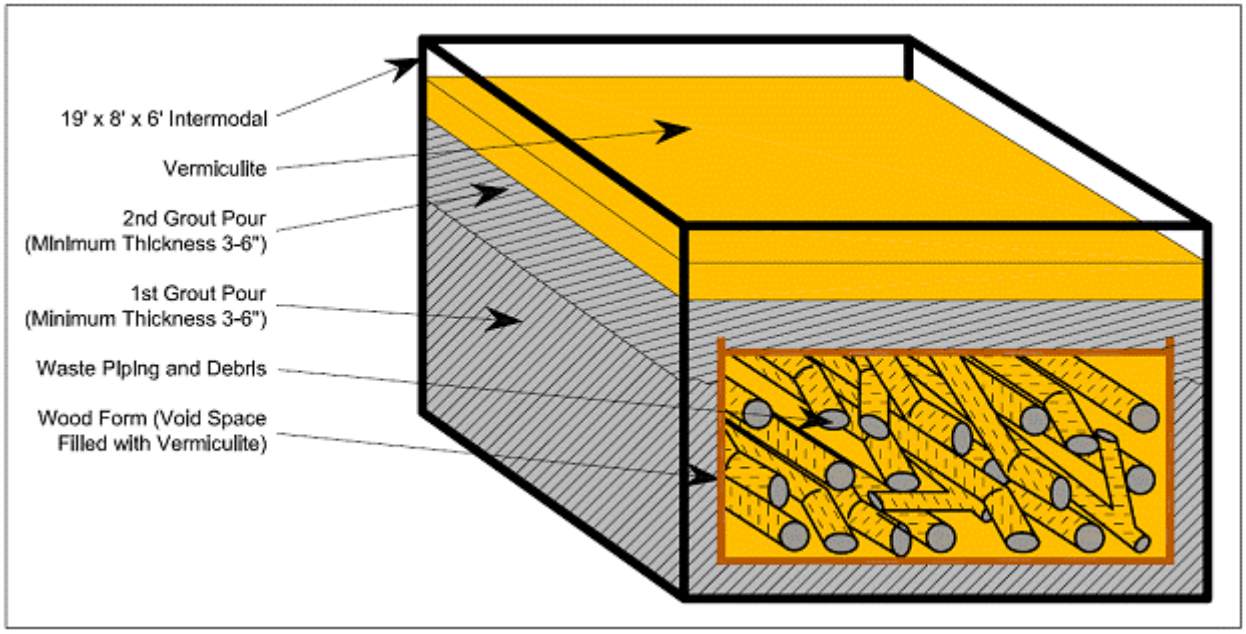
Intermodal Waste Container Profile



Attachment B
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Photograph of Herculite® sock that would be attached to end of pipe segment